Commonwealth of Massachusetts
Office of Consumer Affairs & Business Regulation
Division of Energy Resources

RENEWABLE ENERGY PORTFOLIO STANDARD ADVISORY RULING

FOR

GENPOWER LLC'S PROPOSED C&D FUELED GENERATION UNITS IN MASSACHUSETTS AND RHODE ISLAND

August 4, 2004

1. Advisory Ruling Request by GenPower Inc.

GenPower, LLC has requested that the Massachusetts Division of Energy Resources (hereafter, DOER or the Division) provide an Advisory Ruling with regard to the qualification under the Massachusetts Renewable Energy Portfolio Standard (RPS) of two proposed new 20 MW Generation Units that would be fueled primarily by woody materials from construction and demolition (C&D) wastes. One plant would be in Massachusetts (MA), the other in Rhode Island (RI).[1] This document is DOER's response to that request.

The RPS regulations, at 225 CMR 14.06(5),[2] provide an opportunity for a Generation Unit owner or developer "to request an advisory ruling from the Division to determine whether a Generation Unit would qualify as a New Renewable Generation Unit."[3]

2. Description of the Proposed GenPower Projects

The request from GenPower concerns a proposal to construct two new biomass Generation Units, one in Massachusetts and one in Rhode Island, fueled primarily by woody materials from C&D wastes, possibly supplemented by other wood sources. The description for each plant is identical and is quoted here from the June 8th letter:

> The facility would produce approximately 20MW of power on 24 X 7 basis. We anticipate burning about 170,000 tons of fuel per year.
>
> The plant's boiler will be equipped with emissions control equipment including a limestone injection system, selective non-catalytic reduction (SNCR) system, and a fabric filtration system. The boiler will utilize bubbling fluidized bed combustion technology from Energy Products of Idaho. This combination of technologies will achieve Best Available Control Technology (BACT) level emission rates.

This Advisory Ruling addresses the proposed projects' fuels, technologies, and air emissions.

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[1] The GenPower request was made in two letters to Howard Bernstein at DOER, a June 3, 2004 letter for the Massachusetts plant and a June 8, 2004 letter for the Rhode Island plant. GenPower provided some additional information regarding the Massachusetts plant in emails on June 3rd and 4th. All information about the two, virtually identical projects comes from those communications, which will not necessarily be referenced in the body of this Advisory Ruling.

[2] Hereafter, all references to the RPS regulations will be to sections of 225 CMR 14.00.

[3] More information about Advisory Rulings for MA RPS is at http://www.mass.gov/doer/rps/advisory.htm.

3. Discussion of the Projects' Proposed Biomass Fuels

Both units would burn woody materials from C&D wastes, possibly supplemented by wood pallets and woody residues from forestry and sawmill operations. The C&D materials would come from in-state C&D processing facilities and possibly also from permitted facilities in other states. DOER considers both types of fuels to fall within the definition of Eligible Biomass Fuel in the RPS regulations at 14.02.

DOER's position with regard to C&D wood debris was stated in its "Summary of Public Comments and Agency Responses" dated February 6, 2002, and in a letter from the Massachusetts Department of Environmental Protection (MA DEP) to DOER dated January 8, 2002.[4] As stated in that letter, C&D wood debris, which might include some "wood containing paints, stains, coatings or preservatives . . . can properly be considered as an eligible biomass fuel . . . as one type of 'organic refuse-derived fuel that is collected and managed separately from municipal solid waste.'" In addition, DOER has found C&D waste to be eligible in earlier Advisory Rulings for EcoPower and Boralex.[5]

4. Discussion of the Projects' Proposed Biomass Technology

The RPS regulations at 14.05(1)(a)6 provide that the qualification of biomass generation units is limited to "low emission, advanced biomass power conversion technologies using an Eligible Biomass Fuel." These criteria are designed to insure that the RPS provides incentives for older, dirtier technologies to be replaced by cleaner and more efficient technologies. DOER also believes that biomass technologies should improve over time in response to the incentives created by the RPS, in addition to other regulatory and market forces responsible for continued technological progress in the electricity generation sector generally.

GenPower plans to use bubbling fluidized bed (FB) technology from Energy Products of Idaho, a firm that specializes in fluidized bed technologies applicable to a wide range of biomass fuels. In several previous Advisory Rulings – for PSNH's proposed re-tooling and repowering of one unit at its Schiller Station in New Hampshire, for EcoPower's proposed new unit in Massachusetts, and for the retooling of biomass plants by Boralex, Burlington Electric, and Greenville Steam – DOER has discussed FB technology and determined that current FB technology represents an improvement over the early generation FB technology of the two 1986 Indeck boilers in Maine, and that the improved technology proposed for those projects meets the "advanced technology" criterion of the RPS regulations.[6] Consistent with those determinations and with the information provided by GenPower, DOER finds that the bubbling fluidized bed technology proposed for the two new GenPower plants also qualifies as "advanced."

5. Discussion of the Project's Air Emissions

A generation unit using an eligible biomass fuel and advanced technology must meet the criterion of "low emissions" in order to qualify a New Renewable Generation Unit for the RPS,

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[4] DOER's February 6, 2002 "Summary of Public Comments and Agency Responses" (see item 1.E on page six) and the DEP's January 8, 2002 letter, to which said item 1.E makes reference, can be accessed under the Public Comment Documents section near the top of this web page: http://www.state.ma.us/doer/rps/delproc.htm.

[5] Those Advisory Rulings can be accessed via a link at http://www.mass.gov/doer/rps/advisory.htm.

[6] The Advisory Rulings can be accessed via links at http://www.mass.gov/doer/rps/advisory.htm. The Indeck plants are already qualified for RPS under the Vintage Waiver provision at 14.05(2)

per the regulations at 14.05(1)(a)6. This criterion does not set specific emission targets. Rather, the threshold for eligibility is expected to become more stringent as biomass energy conversion and emission control technologies improve. In addition, that threshold might differ among fuels, technologies, and project scale – as determined by the MA DEP. Under the RPS regulations at 14.05(1)(a)6.a, a generator must receive a valid air permit from its appropriate state air quality regulatory agency to qualify as an eligible biomass generator. The same subsection also provides that the project "must . . . demonstrate to the satisfaction of the Division that its emission rates are consistent with emission rates for comparable biomass units as prescribed by the Massachusetts Department of Environmental Protection."[7]

Rather than providing projected or expected or guaranteed emission rates, GenPower has stated the following in its June 8th letter:

> The plant's boiler will be equipped with emissions control equipment including a limestone injection system, selective non-catalytic reduction (SNCR) system, and a fabric filtration system. The boiler will utilize bubbling fluidized bed combustion technology from Energy Products of Idaho. This combination of technologies will achieve Best Available Control Technology (BACT) level emission rates.
>
> GenPower is currently the owner's engineer for Public Service of New Hampshire's Schiller Station repowering project. The proposed project will use advanced technology similar to the Schiller project and obtain similar emission rates.

DOER stated on page 7 of its Advisory Ruling for Schiller Station that "DOER and DEP consider these proposed emission limits to be consistent with the "low emissions" criterion for RPS biomass generation units."[8] If the two proposed plants also meet those emissions limits, then DOER would consider them, too, to meet the RPS "low emissions" criterion.

However, GenPower should be reminded that Schiller Station will be much larger and will be fueled primarily by wood from non-C&D sources, so the two plants are not strictly comparable. In addition, GenPower should note that DOER has already provided an Advisory Ruling to EcoPower, LLC for its proposed new C&D wood fueled FB plant in Massachusetts. EcoPower's projected emission rates are higher than Schiller's for every pollutant; however, the Advisory Ruling for EcoPower, rather than accepting its emission rates as "low emission," states that the emission rates to be determined as BACT through the rigorous permitting process at the MA DEP will constitute what DOER will deem qualified as "low emission" under the RPS regulations.

Likewise, GenPower's proposal for a plant in Massachusetts also would be required to apply to the MA DEP, whose BACT determination and granting of a Permit to Construct would constitute meeting the RPS "low emissions" criterion. If the MA DEP were to issue a permit for either EcoPower's or GenPower's plant prior to the issuance of a permit by the RI Department of Environmental Management (DEM) for GenPower's Rhode Island plant, then the emissions rates provided in the MA permit would set the standard that DOER would apply to RPS qualification of the plant in Rhode Island. However, any standard set for RPS qualification of a non-Massachusetts plant would be independent of the standards set by the RI DEM, which are, of course, what the plant would be required to meet as a condition of operating in Rhode Island.

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[7] If the air quality regulations applicable in the jurisdiction where the unit is located do not require an air permit, then the unit must satisfy the requirements of the RPS regulations at 14.05(1)(a)6.c. This does not apply here.

[8] The Schiller Advisory Ruling is accessible via a link at http://www.mass.gov/doer/rps/comschil.htm.

DOER also notes that a plant fueled with C&D wood may emit toxic air emissions, whose regulated levels also may be included in the MA RPS low emission standard for such plants.

In any case, DOER advises the company to maintain communication with both the MA DEPs and the RI DEM, as well as to monitor Advisory Rulings and Statements of Qualification at DOER's RPS web page.[9] Also, the company should note that DOER is likely to include emissions monitoring and reporting requirements as conditions in the Statement of Qualification for any non-Massachusetts biomass unit, including the proposed plant in Rhode Island.

6. Summary of Ruling

DOER has found GenPower's proposed projects, as currently described, to fall within the eligibility criteria for biomass-fueled New Renewable Generation Units provided in the RPS regulations at 14.05(1)(a)6. The following summarizes this finding, and it also notes several key issues and requirements for GenPower to consider in its project planning. In reviewing an eventual Statement of Qualification Application for either or both of the units, DOER will also consider these issues and requirements.

1. DOER finds the proposed fuels to meet the definition of Eligible Biomass Fuels in the RPS regulations. The proposed fuel stream will consist of C&D wood from state-permitted processing facilities, possibly supplemented by wood pallets and by woody residues from forestry and sawmill operations.

2. DOER finds that, pending details to be submitted with a Statement of Qualification Application, the proposed bubbling fluidized bed technology would qualify as advanced biomass power conversion technologies. This finding is consistent with the findings for the fluidized bed technologies in several other recent Advisory Rulings.

3. DOER considers the plants' proposed emission limits, stated to be "similar" to those of the PSNH Schiller Station biomass project, to be consistent with the "low emissions" criterion for MA RPS biomass generation units. The emissions qualification of the Massachusetts plant would be assured by its having to receive a BACT determination and air permit from the MA DEP. MA RPS qualification of the Rhode Island project would be based on its meeting identical or very nearly identical standards, which, however, may differ from the standards set by the RI DEM as a condition for plant operation. Therefore, DOER advises GenPower to work with both the RI DEM and the MA DEP, and to monitor DOER Advisory Rulings and other MA RPS decisions, as well as MA DEP air permits, subsequent to this Advisory Ruling.

4. GenPower should note that, while DOER may grant a Statement of Qualification for the proposed Generation Unit, the RPS qualification of the plant always would be contingent on GenPower's obtaining any required MA or RI air permits and on its operating the plant in compliance both with those permits and with DOER's RPS regulations, including the conditions of the plant's Statement of Qualification. GenPower should expect emissions monitoring and reporting requirements to be included among those conditions, in the case of the RI plant.

5. Finally, GenPower should note that, once DOER grants a Statement of Qualification, further advances in "low-emission, biomass power conversion technologies" would have no effect on the plant's MA RPS qualification.

[9] http://www.mass.gov/doer/rps/.